

MONITOR WELL PRE-SPUD PROPOSAL

Peter J
Pa: PM
Ray RLS

- 1) WELL NAME/NUMBER: PL-5
- 2) PROPOSED LOCATION: (a) General (on or off-site) Off-site
(attach map Site Area Private Land Section)
(b) Sect 5 Twnshp 21S Rng 3E NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$
- 3) WELL PARAMETERS:
 - (a) Est. total depth 880 (ft) (b) Est. ground elevation @4588 ft
 - (c) Anticipated stratigraphy:
Alluvium (Santa Fe Group) from 0 ' to 865 ' (depth)
Andesite (Orejon) from 865 ' to 880 ' (depth)
 - (d) Anticipated water bearing horizon(s):
Alluvium (Santa Fe Group) at 490 ' (depth)
at _____ ' (depth)
 - (e) Anticipated static water level 450 ' (depth)
- 4) WELL PURPOSE/JUSTIFICATION (attach maps and table if needed):
Assess groundwater quality data (vertical profile) using the Westbay MP system in the
alluvial aquifer located within the West Boundary Fault zone.
- 5) PROPOSED DRILLING PARAMETERS:
 - (a) Drilling method(s): (air/foam/mud rotary/auger/etc.)
Mud Rotary with 18" bit from 0 ' to 100 ' (depth)
Mud Rotary with 12 $\frac{1}{4}$ " bit from 100 ' to TD ' (depth)

Mud-rotary method: Bentonite mud/water mixture.

WELL NAME/NUMBER: PL-5

(b) Lithology sampling - collect sample every:

5' intervals Method Grab from 0 ' to TD ' (depth)
Core type 6" Dennison from _____ ' to _____ ' (depth)
2" Christiansen from _____ ' to _____ ' (depth)

(c) Anticipated drilling additive(s): None

7) PROPOSED WELL COMPLETION DESIGN/MATERIALS

(a)	Casing:	Material	Diameter	From	To	Comments
	Temporary	_____	_____	_____	_____	
	Surface	_____	<u>14"</u>	<u>0</u>	<u>100' max</u>	
	Screen (10')	<u>Stainless ++</u>	<u>4"</u>	<u>To be determined</u>	<u>from Geophysical</u>	<u>0.02"</u>
				<u>logs</u>		
	Dual Completion	<u>stainless +</u>	<u>4"</u>	<u>0</u>	<u>TD</u>	<u>outer</u>
	Pipe					<u>completion</u>
		<u>PVC-Sch 80**</u>	<u>3"</u>	<u>0</u>	<u>TD</u>	<u>inner</u>
						<u>completion</u>

Standard material: Blank riser, silt trap, locking cap

N/A Data not available at this time

* for deep completions (450 feet or more)

** Westbay couplers, pumping ports, monitoring ports, and packers

+ Type 304, Schedule 5 stainless steel

Type 304, Schedule 10 stainless steel (below 400')

++ Regular strength screen, extra strength screen used below 450 feet

(b) Filter pack: Standard 8/20 sand and bentonite plug(s), grout to surface.

8) PROPOSED WELL DEVELOPMENT

(a) Water jet.


(b) Swab and bail with suction bailer.

(c) Air-lift with air-lift assembly until parameters stabilize.

9) WELL AUTHORIZATION

(a) Proposed by Geoscience Consultants, Ltd.

(b) Authorized Robert Mitchell NASA
(name) (representing)


(signature)

